

OIB - DC-8 11/21/14 Science Report

Aircraft:

[DC-8](#) ([See full schedule](#))

Date:

Friday, November 21, 2014

Mission:

OIB

Mission Location:

Antarctica

Mission Summary:

F21 Thwaites Glacier Arch

Accomplishments

- Low-altitude survey (1,500 ft AGL) over Thwaites Glacier.
- ATM, albedo, KT-19, snow, Ku-band, MCoRDS, gravimeter, and DMS were operated on the survey lines.
- Collected additional high-altitude data over sea and land ice on transit to and from survey area.
- Ramp pass at Punta Arenas airport after takeoff at 1,500 ft AGL.
- Satellite tracks: ICESat-1: 0190, 0288, 0205, 0294, 0154, 1291, 0273.
- Repeat Mission: portions in 2002, 2009, and 2011.

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	42 GB	None.
CAMBOT	yes	74 GB	None.
DMS	yes	80 GB	None.
Snow Radar	yes	399 GB	None.
Ku-band Radar	yes	399 GB	None.
MCoRDS	yes	1.2 TB	Write error. System restart resulted in 10 min data gap.
KT-19	yes	10 MB	None.
Albedo	yes	2.9 GB	None.
Albedo camera	yes	394 MB	None.
Gravimeter	yes	2.1 GB	None.

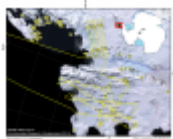
Mission Report (Michael Studinger, Mission Scientist)

Today's flight is a new mission, designed to collect dh/dt measurements over Thwaites Glacier and its lower tributary channels. It re-occupies two ICESat-1 lines last flown in 2011, the inner ?arch? last flown in 2009 and first flown in 2002 by the NASA-Chilean joint project, and an outer ?arch? planned for 2010 but not yet flown.

LiDAR data collection started 11/21/2014 14:26 UTC and ended at 20:52 UTC. In total we collected 6.4 hours of LiDAR data. The weather in the survey area was perfect and we were also able to collect additional high altitude data over sea ice and land ice during transits to and from the survey area.

Images:

Figure 1: Today's trajectory in yellow.



[Read more](#)

Submitted by:

Michael Studinger on 11/21/14

Related Flight Report:

DC-8 11/21/14

Flight Number:

150128

Payload Configuration:

Operation IceBridge 2014

Nav Data Collected:

Yes

Total Flight Time:

11.2 hours

Submitted by:

Timothy Moes on 11/22/14

Flight Segments:

From:	SCCI	To:	SCCI
Start:	11/21/14 11:59 Z	Finish:	11/21/14 23:08 Z
Flight Time:	11.2 hours		
Log Number:	158003	PI:	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	OIB 2014 Science Flight #21 ? Land Ice Thwaites Arch at 1,500 ft AGL Aircraft Status: Airworthy Sensor Status: All instruments operated Significant Issues: None Accomplishments: Takeoff at 325 115848Z Land 325 230727Z. After takeoff accomplishd a calibration ramp pass at 120637Z and 1300?agl. Climb to transit altitude of FL330. Start descent at 1532Z. All data lines flown successfully and complete at 1944Z. Climb to FL390 for transit to Punta Arenas. Planned events: One more science flight planned for out of Punta Arenas, Chile on Nov 22 and transit to Palmdale on Nov 24.		

Flight Hour Summary:

	158003
Flight Hours Approved in SOFRS	300
Total Used	292.1
Total Remaining	7.9

158003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/06/14	150101	Science	1.2	1.2	298.8
10/07/14 - 10/08/14	150102	Science	5.2	6.4	293.6
10/08/14	150103	Science	3.7	10.1	289.9
10/13/14	150104	Transit	10.4	20.5	279.5
10/13/14	150105	Transit	3.2	23.7	276.3
10/16/14	150106	Science	11	34.7	265.3
10/18/14 - 10/19/14	150107	Science	11.9	46.6	253.4

10/20/14	150108	Science	11.7	58.3	241.7
10/23/14	150109	Science	11.8	70.1	229.9
10/25/14	150110	Science	11.4	81.5	218.5
10/26/14 - 10/27/14	150111	Science	11.9	93.4	206.6
10/28/14	150112	Science	11.5	104.9	195.1
10/29/14	150113	Science	10.9	115.8	184.2
10/31/14	150114	Maintenance	2.8	118.6	181.4
11/01/14	150115	Maintenance	3	121.6	178.4
11/02/14	150116	Science	10.9	132.5	167.5
11/03/14	150117	Science	11.1	143.6	156.4
11/05/14	150118	Science	11.4	155	145
11/06/14	150119	Science	11.1	166.1	133.9
11/07/14	150120	Science	10.9	177	123
11/08/14	150121	Science	11.4	188.4	111.6
11/10/14	150122	Science	11.2	199.6	100.4
11/11/14	150123	Science	11.2	210.8	89.2
11/13/14	150124	Science	11.4	222.2	77.8
11/14/14	150125	Science	11.5	233.7	66.3
11/15/14	150126	Science	11.2	244.9	55.1
11/16/14	150127	Science	11.1	256	44
11/21/14	150128	Science	11.2	267.2	32.8
11/22/14	150129	Science	10.8	278	22
11/24/14	150130	Transit	2.9	280.9	19.1
11/25/14 - 11/26/14	150131	Transit	11.2	292.1	7.9

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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